both inventory and UAVs. The inventory management system **126** may instruct UAVs, after completing a delivery, to navigate to a shuttle positioned at a replenishment area. The shuttles **150** may be loaded with UAVs, inventory, workers, materials handling equipment, and/or other inbound items and navigate to the AFC **102** to replenish the AFC **102**. Likewise, a shuttle, after offloading the inbound items at the AFC **102**, may receive outbound items (e.g., overstocked items, transshipment items, workers, materials handling equipment, waste) from the AFC **102** and transport those items back to a ground based materials handling facility **130** and/or to another location.

The AFC **102**, UAVs **112** and/or the shuttles **150** may communicatively couple to the remote computing resources **110** via a network. For example, the communications to and from the AFC **102**, shuttles **150** and/or UAVs **112** may utilize wireless antennas of the AFC **102**, shuttles **150** and/or UAVs **112**.

In various implementations, the inventory management system **126** and/or AFC **102** may send instructions to or otherwise control the UAVs **112** for delivering items, navigating to shuttles, navigating to materials handling facilities **130**, and the like. As discussed further below with respect to FIGS. **2-3**, UAVs **112** that are operating at lower altitudes may form a UAV network **200**, alone or in combination with the inventory management system **126**, landed shuttles **150** and/or ground based materials handling facilities **130**. In some implementations, the UAV network **200** may also include the AFC **102**, airborne shuttles **150** and/or UAVs descending from higher altitudes.

In various implementations, the remote computing resources **110** and/or inventory management system **126** may also receive tracking data (e.g., GPS) regarding the coordinates of the UAVs **112**, shuttles **150** and/or AFCs **102**. The GPS data may be utilized for various purposes, such as answering location status requests or for sending notifications regarding the current locations of the AFCs and/or UAVs. For example, a user may request that a notification be sent when an UAV **112** with an item ordered by the user has departed the AFC and/or is approaching. As another example, a notification may be sent to a UAV that has completed an item delivery identifying a location of a shuttle **150** to which the UAV **112** is to navigate. Notifications may also be sent from the AFC **102**, shuttles **150** and/or UAVs **112** to the remote computing resources **110** and/or inventory management system **126** regarding various events (e.g., when a UAV has been deployed from an AFC, when a shuttle has reached capacity, when an AFC is running low on inventory and/or UAVs).

FIG. **2** depicts a block diagram of a UAV network **200** that includes UAVs **212**, delivery locations **203**, shuttle replenishment locations **251**, materials handling facilities **230** and an inventory management system **226**, according to an implementation.

Each of the UAVs **212**, delivery locations **203**, shuttle replenishment locations **251**, materials handling facilities **230** and/or inventory management system **226** may be configured to communicate with one another. For example, the UAVs **212** may be configured to form a wireless network **200** that utilizes Wi-Fi or another wireless means of communication, each UAV communicating with other UAVs within wireless range. In other implementations, the UAVs **212**, inventory management system **226**, materials handling facilities **230**, shuttle replenishment locations **251** and/or the delivery locations **203** may utilize existing wireless networks (e.g., cellular, Wi-Fi, satellite) to facilitate communication. In some implementations, one or more of the inventory management system **226**, materials handling facilities **230**, delivery locations **203** and/or shuttle replenishment locations **251** may also communicate with each other via another network (wired and/or wireless), such as the Internet. Likewise, a shuttle (not shown) and/or an AFC (not shown) may communicate with and/or be part of the wireless network **200**.

As discussed above, the inventory management system **226** may be configured to communicate with the delivery locations **203**, UAVs **212**, materials handling facilities **230**, AFCs, shuttles, and/or shuttle replenishment locations **251**. As an example, position information for each UAV **212** may be determined and shared among UAVs. Each UAV may periodically transmit, for example, ADS-B information to other UAVs in the network. When information, such as ADS-B information, is sent to or from a UAV, the information may include an identifier for the UAV and each UAV may act as a node within the network, forwarding the information until it is received by the intended UAV. For example, the inventory management system **226** may send a message to UAV **212-6** by transmitting the information and the identifier of the intended receiving UAV to one or more of UAVs **212-1**, **212-2**, **212-3** that are in wireless communication with the inventory management system **226**. Each receiving UAV will process the identifier to determine if it is the intended recipient and then forward the information to one or more other UAVs that are in communication with the UAV. For example, UAV **212-2** may forward the message and the identification of the intended receiving UAV to UAV **212-1**, **212-3** and **212-5**. In such an example, because UAVs **212-1**, **212-3** have already received and forwarded the message, it may discard the message without forwarding it again, thereby reducing load on the network **200**. The other UAVs, upon receiving the message, may determine that they are not the intended recipient and forward it on to other nodes. This process may continue until the message reaches the intended recipient.

In some implementations, if a UAV loses communication with other UAVs via the wireless network **200**, it may activate another wireless communication path to regain connection. For example, if a UAV **212** cannot communicate with any other UAVs via the network **200**, it may activate a cellular and/or satellite communication path to obtain communication information from the inventory management system **226**, materials handling facility **230**, shuttle replenishment location **251** and/or a delivery location **203**. If the UAV still cannot regain communication and/or if it does not include an alternative communication component, it may automatically and autonomously navigate toward a designated location (e.g., a nearby materials handling facility **230**, shuttle replenishment location **251** and/or delivery location **203**).

The wireless mesh network **200** may be used to provide communication between UAVs (e.g., to share weather information including wind speeds and directions, location information, routing information, landing areas), the inventory management system **226**, materials handling facilities **230**, delivery locations **203** and/or shuttle replenishment locations **251**.

In addition, in some implementations, the wireless network **200** may be used to deliver content and/or other information to other computing resources, such as personal computers, electronic book reading devices, audio players, mobile telephones, tablets, desktops, laptops, etc. For example, the mesh network may be used to deliver electronic book content to electronic book reading devices of users.

FIG. **3** is a block diagram illustrating an unmanned aerial vehicle delivery process that utilizes an airborne fulfillment center **302**, according to an implementation. As illustrated, an AFC **302** may be positioned above a metropolitan area **304** at a high altitude (referred to herein as a fulfillment center alti-